



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/638,849	08/11/2003	James Xixian Wu	SP-1076.2 US	4449
20875 7590 02/12/2007 MICHAEL C. POPHAL EVEREADY BATTERY COMPANY INC 25225 DETROIT ROAD P O BOX 450777 WESTLAKE, OH 44145			EXAMINER CANTELMO, GREGG	
			ART UNIT 1745	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/12/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/638,849

Applicant(s)

WU, JAMES XIXIAN

Examiner

Gregg Cantelmo

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-22 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

39DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 14, 2006 has been entered.

Response to Amendment

2. In response to the amendment received November 14, 2006:
- a. Claims 20-28 are pending;
 - b. The prior art rejection of record are withdrawn in light of the amendment .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1745

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 20, 21, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 3443454 (DE '454) in view of U.S. Patent No. 4,628,012 (Spahrbier).

DE '454 discloses a bobbin-style electrochemical cell in Fig. 1 comprising: a cylindrical can 2 having an open end and a sidewall; a cover 3, positioned over the open end, consisting of a base and a peripheral wall extending axially away from the base wherein the peripheral wall has a terminal edge positioned radially outside of the outer the side wall; a first adhesive 4 disposed between at least a portion of an outer-facing length of the side wall and the peripheral wall so that the cover 3 and the can 2 are adhesively secured to form a non-crimped electrochemical cell container and wherein the can 2 and the cover 3 define an internal chamber in the non-crimped container; a first electrode 5 disposed within the internal chamber of the non-crimped container; a second electrode 8 disposed within the internal chamber of the non-crimped container, wherein the second electrode 8 is in contact with the side wall along, substantially all of an entire inner-facing length of the side wall; and a current collector 9 disposed within the internal chamber, said current collector 9 in electrical contact with the cover 3 at one end and completely surrounded by the first electrode 5 at an opposing end; and an electrolyte solution disposed within the internal chamber of the non-crimped container (Fig. 1 as applied to claim 20).

Member 4 also functions as a seal and is disposed between the sidewall of the container and the peripheral wall of the cover (Fig. 1 as applied to claim 21).

Art Unit: 1745

The seal is positioned proximate to the cover 4 (Fig. 1 as applied to claim 27).

The can or container is a metal container (as applied to claim 28).

DE '454 does not teach of the electrolyte being an alkaline electrolyte.

While DE '454 exemplifies a lithium battery, the core concept of DE '454 is the arrangement of the cover and cylinder relative to one another as well as a seal for the two components to provide a venting capability to the cell.

Spahrbier, which is related to DE '454, discloses the same arrangement and further discloses that it is desired to vent alkaline cells as well (col. 1, ll. 29-38). Spahrbier further aspires to solve the issues with the prior art disclosed in col. 1, ll. 29-38 with the particular cell casing described in Spahrbier (col. 1, ll. 60-65). Again the emphasis in this reference is to improve cell venting and prevent cell explosion. Therefore the combination of Spahrbier and DE '454 would lead one of ordinary skill in the art to have found it obvious to incorporate the particular electrochemical components of various cell types, including alkaline cell types (and hence alkaline electrolytes) to provide an alkaline cell having improved venting and reduced explosion susceptibility.

Selection of the particular cell type, such as the claimed alkaline electrolyte would have been an obvious modification over that of DE '454 dependent upon the intended class of cell and use of the cell. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

Response to Arguments

4. Applicant's arguments filed November 14, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. Claims 22 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 3443454 (DE '454), in view of Spahrbier, as applied to claim 20 above and in further view of Riedl, of record.

The can or container is a metal container (as applied to claim 26).

The differences not yet discussed are providing a first adhesive material and a second adhesive material (claim 22) or the position of the adhesives (claim 23).

A first adhesive material 51 is disposed between the sidewall of the container and the peripheral wall of the cover for adhering the cover to the container. A second adhesive material 52 is disposed between the side wall of the container and the peripheral wall of the cover (Riedl Fig. 3, col. 4, ll. 32-59 and col. 5, ll. 34-44 as applied to claim 22).

Each of the first and second adhesives also function as seals and thus the arrangement shown is also exemplary of a first adhesive/seal and an additional adhesive/seal (as applied to claim 25).

The dual adhesive arrangement of Riedl provides an improved cell seal for non-crimped cell arrangements which has improved resistance to electrolyte leakage.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of DE '454 by using the dual

Art Unit: 1745

adhesive material arrangement of Riedl since it would have provided an improved cell seal for non-crimped cell arrangements which had improved resistance to electrolyte leakage.

Allowable Subject Matter

6. Claims 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record, teach suggest or render obvious the invention of claim 23 wherein the first and second adhesives are located such that the first adhesive is axially closer to the open end relative to the second adhesive. While Riedl teaches of 2 adhesives/seals, Riedl does not reasonably teach the invention of claim 23 in light of the substantive amendment to the particular cell arrangement defined therein. There is insufficient motivation for providing the adhesive arrangement of Reidl in the cell defined by claim 23. Furthermore while DE '454 discloses the general cell structure of claim 23, DE '454 does not teach or suggest having first and second adhesives axially displaced in the manner recited in claim 23. Even if the two adhesives of Reidl were to be employed in the cell of DE '454, the cell configuration and adhesive placement would only suggest having first and second adhesives at the same axial distance. Thus the prior art of record is not held to reasonably suggest the axial arrangement of the first and second seals relative to one another and the open end of the cylindrical can as defined in claim 23.

Art Unit: 1745

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregg Cantelmo
Primary Examiner
Art Unit 1745



gc
February 5, 2007